

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70 .

CIRC ACCESSION NO--AP0118687

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMAL STABILITY OF ZIRCON NOZZLES CAN BE INCREASED BY INCREASING THE CONTENT OF COARSE FRACTIONS (3-0.5 MM) WHICH INCREASES THE POROSITY, BY ADDING CARBORUNDUM, AND BY EXCLUDING CLAYS WHICH FORM A GLASSY PHASE. THE USE OF THESE NOZZLES WITH INCREASED THERMAL STABILITY IMPROVE THE CASTING CONDITIONS AND INCREASE THE SURFACE QUALITY OF THE INGOTS. FACILITY: VSES. INST. OGNEUPOR., LENINGRAD, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--INCREASE IN THE THERMAL STABILITY OF ZIRCON CASTING NOZZLES -U-
AUTHOR--(02)-ALEKSEYEVA, A.N., GORYACHEVA, Z.YE.
COUNTRY OF INFO--USSR
SOURCE--OGNEUPORY 1970, 35(3), 46-50
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CERAMIC MATERIAL, METAL INGOT, ZIRCONIUM OXIDE, NOZZLE,
THERMAL STABILITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1709 STEP NO--UR/0131/70/035/003/0046/0050
CIRC ACCESSION NO--AP0118687
UNCLASSIFIED

A
USSR

ALEKSEYEVA, A. N., GORYACHEVA, Z. YE.

"Methods of Increasing Heat Resistance of Zirconium Cups"

Moscow, Ogneupory, No 3, Mar 70, pp 46-50

Abstract: The heat resistance of zirconium cups can be increased by increasing the content of larger fractions (3-6.3 mm) in the briquette in the composition of charges, by introducing carborundum and by eliminating clay. The usage of zirconium cups with increased heat resistance allows the pouring conditions in continuous steel casting devices to be improved and increases the surface quality of ingots by decreasing the accumulation of scum on the cups and reducing wear.

1/1

- 55 -

2/2 026

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120896

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY THE METHOD OF ORGAN CULTURES ON MILLIPOROUS HA FILTERS THE AUTHORS CULTIVATED TISSUES OF THE TRACHEA, NASAL EPITHELIUM AND LUNG OF 5-6 MONTH OLD HUMAN EMBRYOS. THE NUTRIENT MEDIUM WAS COMPOSED OF 80PERCENT NO. 199 MEDIUM, 20PERCENT OF EMBRYONIC EXTRACT WITH THE ADDITION TO 1 ML OF MEDIUM OF 4 MG OF GLUCOSE, 10 MG OF VITAMIN A AND 100 UNITS EACH OF PENICILLIN AND STREPTOMYCIN. CULTURES OF THE TRACHEA RETAINED VIABILITY FOR 2 MONTHS (OBSERVATION PERIOD), CULTURES OF THE NASAL EPITHELIUM AND PULMONARY TISSUE, FOR ONE AND ONE HALF MONTHS. THE CULTURES WERE INFECTED WITH A2 INFLUENZA VIRUS IN A DOSE OF 10 PRIME5-10 PRIME6 ID SUB50 AND ITS PROPAGATION WAS STUDIED SIMULTANECUSLY WITH INOCULATION OF VIRAL PARTICLES AND 7-35 DAYS AFTER BEGINNING OF CULTIVATION. IT IS SHOWN THAT A2 INFLUENZA VIRUS IS CAPABLE OF PROPAGATION IN ALL THREE TYPES OF CULTURES DURING THE ENTIRE PERIOD OF CULTIVATION. IN THE EXPLANTS OF THE PULMONARY TISSUE STRAINS OF A2 INFLUENZA VIRUS POSSESSING AND NOT POSSESSING RESIDUAL VIRULENCE FOR MAN MULTIPLY. FACILITY: MOSCOW SCIENTIFIC RESEARCH INSTITUTE OF VIRAL PREPARATIONS.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--ORGANIC CULTURES OF THE RESPIRATORY TRACT OF HUMAN EMBRYO -U-
AUTHOR-(03)-GORYUNOVA, A.G., ALEKSEYEVA, A.K., ZALKIND, S.YA.
COUNTRY OF INFO--USSR
SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69,
NR 5, PP 108-111
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--EMBRYOLOGY, RESPIRATORY SYSTEM, TISSUE CULTURE, CULTURE
MEDIUM, VITAMIN, PENICILLIN, STREPTOMYCIN, GLUCOSE, INFLUENZA VIRUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0198 STEP NO--UR/0219/70/069/005/0108/0111
CIRC ACCESSION NO--AP0120896
UNCLASSIFIED

Acc. Nr: AP0051957

A

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 3, pp 229-232

EFFECT OF VITAMINS ON GROWTH AND DEVELOPMENT OF VARIOUS STRAINS
OF TRICHOTHECIUM ROSEUM LINK PRODUCING TRICHOTHECIN

R. A. Maksimova, N. P. Palmova, A. A. Alekseyeva

Antibiotic Laboratory of Soil Biology Faculty of Moscow State University

The effect of vitamins on growth and development of various strains of Trichothecium roseum Link differing in their morphology and antibiotic production levels was studied. The strains were obtained by induction with certain chemical mutagens and trichothecin. On Chapek media with ammonium sources of nitrogen the fungal growth was shown to depend on the presence of water soluble vitamins in the medium. Slight vitamin dependance was observed in strains typical for that species. Increased vitamin deficiency was observed in variants obtained after repeated treatment of the fungal conidia with nitrosemethyl urea or ethylenimine and passages to media containing high concentrations of trichothecin. Addition of vitamins or usage of vitamin rich natural media provided sufficient growth and increased the viability of strains, possessing a higher capacity for the antibiotic production. Addition of vitamins had no effect on variation usually observed in Trichothecium roseum Link.

///

REEL/FRAME
19820444

tdh a

USSR

KETILADZE, YE. S., et al., Sovetskaya Meditsina, No 7, 71, pp 115-120

soft palate, and nosebleeds were observed in relatively small percentages of cases. A table shows the relative frequency of various symptoms in successive influenza epidemics from 1959 through 1969. However, these figures show no consistent pattern. As is clear from the data presented, the clinical picture of A2 (Hong-Kong) influenza does not differ in the character of individual symptoms from the A2 influenza of previous years. However, in the degree of manifestation of toxicosis and the number of severe cases among patients hospitalized in the clinic, the influenza in 1969 was more severe than in 1967, but less so than in 1959. Patients in military units generally showed a less severe course. Older patients, especially those with chronic respiratory disorders, showed intensification of these conditions.

2/2

- 49 -

UDC 616.988.75(A2) 4

USSR

KETILADZE, YE. S., KRYAZEVA, L. D., KRYLOV, V. F., ALEKSEYEVA, A. A.,
POLYAKOVA, T. G., TSAREVA, R. G., LITVIN, L. L., and SHUL'ZHENKO, T. V.,
Clinical Department, Institute of Virology imeni D. I. Ivanovskiy, Academy
of Medical Sciences, USSR; and Municipal Infectious Disease Hospital No 82

"Clinical Picture and Some Aspects of the Pathogenesis of Influenza Caused
by Virus A2 (Hong-Kong)"

Moscow, Sovetskaya Meditsina, No 7, 71, pp 115-120

Abstract: The article reports findings of a study of 402 influenza patients
between 17 and 84 years of age, observed during the Moscow influenza epidemic
of January and February 1969. The subjects included both those observed in
the clinic and others in military units. The disease showed all the classical
traits of influenza infection: acute beginning; rapid rise in temperature
(39°C and higher in 88% of the civilian and 26% of the military cases); and
swiftly increasing signs of toxicosis. Almost all patients showed headache,
prostration, pains in the limbs, chill, dizziness, and vomiting. More severe
cases showed changes in the vascular and central nervous systems: delirium,
brief loss of consciousness, syncope, convulsions, and meningeal symptoms.
Cyanosis of the lips and oral mucous membranes, microscopic hemorrhages of the
1/2

2/2 007 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0133298
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BRCH SUB2 CO SUB2 ET WAS CONVERTED
WITH ZN AND 3,0,BENZYL,1,2,0,
CYCLOHEXYLIDENE,5,ALDEHYDO,ALPHA,D,XYLO,PENTODIALDOSE VIA THE
REFORMATSKII REAGENT TO GIVE 83PERCENT ET 3,0,BENZYL,1,2,0,
CYCLOHEXYLIDENE,6,DEOXY,ALPHA,D,GLUCO(BETA,L,IDO),HEPTOFURANSURONATE
(II), SYRUP, (ALPHA) PRIME25 SUBD MINUS 14DEGREES, WHICH WITH AC SUB2
O-PYRIDINE GAVE 83PERCENT SIRUPY ACETATE, (ALPHA) PRIME22 SUBD MINUS
39DEGREES, WHICH CAN BE DEACETYLATED TO THE ORIGINAL SUBSTANCE, AND
WHICH WITH AQ. ALC. KOH YIELDS 3,0,BENZYL,1,2,0,
CYCLOHEXYLIDENE,6,DEOXY,ALPHA,D,GLUCO(BETA,L,IDO),HEPTOFURANSURONIC
ACID, SYRUP, (ALPHA) PRIME21 SUBD MINUS 23DEGREES. FACILITY:
ROSTOV. GOS. UNIV., ROSTOV, USSR.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--REFORMATSKII REACTION IN A SERIES OF CARBOHYDRATES -U-
AUTHOR--(03)-ZHDANOV, YU.A., ALEKSEYEV, YU.YE., KURDANOV, KH.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 943-4
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY
TOPIC TAGS--CARBOHYDRATE, FURAN, BENZENE DERIVATIVE, HETEROCYCLIC OXYGEN
COMPOUND, AROMATIC CARBOXYLIC ACID, HYDROXY CARBOXYLIC ACID
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/1342 STEP NO--UR/0079/70/040/004/0943/0944
CIRC ACCESSION NO--AP0133298
UNCLASSIFIED

USSR

ALEKSEYEV, Yu. N.

"Some Problems of Data Arrangement in the Memory of a Digital Computer"

Nauch.-tekhn. inform. Vses. in-t nauch. i tekhn. inform. (Scientific and Technical Information, All-Union Institute of Scientific and Technical Information), 1971, ser. 2, No 2, pp 36-39, 43 (from REL-KILPATILKA, No 1, Jan 72, Abstract No IV1000)

Translation: A procedure is considered for effective utilization of a digital computer memory which cuts down the time for retrieval of required information in tabular type indices. The mathematical formulation of the problem is presented as well as algorithmization for distribution of information in a digital computer memory. Author's abstract.

USSR

ALEKSEYEV, Yu. N., et al., Teplo- i Massoperenos (Heat and Mass Transfer), Vol 1, 1972, pp 171-175; (Referativnyy Zhurnal, Series 41, No 6, 1972, Abstract No 6.41.181)

chromel-copel thermocouples. During the experiment the transition position was determined twice: in the first instance, for $T_w = T_\infty$, while in the second, the cavity of the model was filled with melting ice. Experimental procedures and results are given in tabular form. It is concluded that 1) surface cooling leads to stabilization of flow in the boundary layer of an incompressible gas, and 2) with increase in thermal head the thermal Reynolds number rises. Biblio. 4, illus. 3, tables 1.

2/2

USSR

UDC 629.78.018.1

~~ALEKSEYEV, Yu. N.~~ KOLOSHNITSYN, V. A., MALYSHEV, G. P., NIKOLAYEVA, V. K.
and SERGIYEVSKIY, N. A.

"An Experimental Study of the Effect of Surface Cooling on Laminar-Turbulent Transition in the Boundary Layer"

Minsk, Teplo- i Massoperenos (Heat and Mass Transfer), Vol 1, 1972, pp 171-175; (Referativnyy Zhurnal, Series 41, No 6, 1972, Abstract No 6.41.181)

Abstract: The purpose of this study was to investigate the effect of surface cooling on flow regime in the boundary layer, given mainly subsonic flow rate around a body, at which time air compressibility can be ignored. The experiment was conducted with identical models in two different wind tunnels with different degrees of turbulence: for the first tunnel, $\epsilon = 0.5\%$, for the second, 0.08% . The model was in the form of a hollow aluminum cylinder 100 mm in diameter, the nose cone being in the form of an ellipsoid of rotation with axis ratio $1/b = 9$. The surface of the model was polished; length of the working section was 2.0 m. Distribution of static pressure was marked by absence of a gradient over practically the entire length of the working section. The electrothermoanemometric method was used to determine flow regime in the boundary layer. Wall temperature was measured with use of calked

1/2

USSR

UDC 621.382

MALYSHEV, V. A., ALEKSEYEV, YU. I. *A*

"Investigating the Current Form in a Gunn Diode Kinematic Model"

Kiev, izvestiya VUZ -- Radioelektronika, Vol 13, No 8, 1970, pp 1027-1030

Abstract: The authors undertake a theoretical investigation of the Gunn effect, the negative differential conductivity in semiconductors, through consideration of the interaction between drifting charged particles and the variable ultra-high frequency field. Assuming that a variable voltage of very small amplitude is applied to the semiconductor in addition to the constant voltage normally given it, the authors obtain an equation for the field voltage and consequently for the drift velocity on the assumption that the latter is solely a function of the field voltage. The expression for the drift velocity is then expanded in a Taylor series, the first three terms of which are kept. By this procedure, expressions are found for the form of the current in the semiconductor. The results obtained by this method were compared with earlier published results and found to be in good agreement with them. For their method, the authors claim greater simplicity and better ability at representing the mechanism of current pulse variations in the semiconductor.

1/1

USSR

UDC 681.325.5

MANSUROV, B. M., GORYACHEV, V. I., and ALEKSEYEV, YU. F.

"Adder-Subtractor"

USSR Authors' Certificate No 306462, Cl. G 06 f 7/50, filed 18 Sep 69,
published 18 Oct 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya
Tekhnika, No 5, May 72, Abstract No 5B241P)

Translation: A Well-known adder-subtractor operates in decimal code with storage of the "five" digit; the decimal digit uses five flip-flops. In the proposed calculator the decimal digit uses four flip-flops, and the low-order digit control circuit contains a forbidden code state correction circuit, one output of which is connected to the input of the $(n - 1)$ -th digit of the sum register, the other output to the input of the low-order digit of the sum register and to the input of the "five" digit add circuit, whose output is connected to the input of the $(n - 1)$ -th digit of the sum register; and the output of the circuit of the low-order digit of the sum register is commutated with the input of the correction circuit. This makes it possible to cut down on equipment and increase the operating speed of the device.

1/1

USSR

ALEKSEYEV, YU. A., et al., Avtomatiz I Kontrol'no-Izmerit. Pribory Nauchno-Tekhn. Sb., No 5, pp 1-3, 1969 (from Referativnyy Zhurnal Avtomatika, Telemekhanika I Vychislitel'naya Tekhnika, No 2, 1970, Abstract No 2A525 by S. S.)

concentration of the low-boiling fraction in the raw material. The selection of controlling actions is based on analysis of a dynamic column model (speed of channels was taken in to consideration). Combined regulation is used for effective suppression of perturbations in the system. Information is presented on industrial tests of the system developed. Three bibliographies.

USSR

A UDC 66.048.38-501

ALEKSEYEV, YU. A., and MAZINA, S. G.

"Automatic Control of Precise Fractional Distillation Columns"

Avtomatiz I Kontrol'no-Izmerit. Pribory. Nauchno-Tekhn. Sb. (Automation and Testing-Measuring Instruments. Scientific-Technical Collection) No 5, pp 1-3, 1969 (from Referativnyy Zhurnal Avtomatika, Telemekhanika I Vychislitel'naya Tekhnika, No 2, 1970, Abstract No 2A525, by S. S.)

Translation: Results of the development of automatic control systems for precise fractional distillation columns are presented. The control problem is to provide separation of the low-boiling fraction at near its potential content in the raw material. Analysis of a static model of the fractional distillation process allowed a set of parameters to be defined which had to be stabilized to realize the effective operating mode of the column: pressure in the column, raw material temperature, characteristic plate temperature, reflux ratio; it is also demonstrated that stabilization of the characteristic plate temperature provides separation of distillate approximately equal to the 1/2

USSR

UDC 621.373.2

ANDRIANOV, A. M., ~~ALEKSEYEV, Yu. A.~~, BAZILEVSKAYA, O. A., BARYSHEV, V. L., and KRABKOV, V. A.

"High-Voltage Pulse Oscillator"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No. 33, 1971, p 184

Abstract: The oscillator contains a nonuniform forming line with distributed parameters, a firing block, and a load. The line is made of two plane circular electrodes with a common axis of symmetry. Between them is a dielectric, with azimuthally symmetrical dischargers around the line's outer periphery; the load is connected through a ring insulator to the central region of the line. The dielectric constant is a function of the electric field intensity. High power and short rise time of the pulses are the features of the device. A sketch of the device is given.

1/1

USSR

ALEKSEYEV, V. YE., et al., Mat. i inform. probl. prognozir. i upr. naukey, Kiev, 1971, pp 136-146

question there is one correct response operator, several operators of the foreseen incorrect answers, the operator for an unforeseen incorrect answer and also the "assistance" and "prompting" operators. The consolidated block diagram of the master program executing the AVTOR language is presented.

2/2

USSR

UDC 8.74

ALEKSEYEV, V. YE., SAVEL'YEV, A. YA., BULATOVA, I. G.

"Determining the requirements on the AVTOR Input Language"

V sb. Mat. i inform. probl. prognozir. i upr. naukoy (Mathematical and Information Problems of Forecasting and Control of Science--collection of works), Kiev, 1971, pp 136-146 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V445)

Translation: The requirements on the AVTOR input language in which the exchanged messages between the instructor, the people and the training complex are written or defined. The most important requirements are the following: 1) the language must be simple, generally intelligible and close to the natural language, for example, the language of mathematics; 2) the language must so far as possible evaluate any answers by the student; 3) the language must permit introduction of any changes into the training programs, that is, correction of them as the instructor desires and also checking for correctness of writing of the training programs. The set of symbols available on the Consul electric typewriter was selected as the input language alphabet. A study was made of the rules for writing messages which are exchanged between the instructor and the student with the training complex. The AVTOR language is constructed by the interpreting program principle. Three types of operators are used in it to write the correct answers: the answer, the keyword and the range of numbers. For each
1/2

USSR

UDC: 8.74

ALEKSEYEV, V. Ye., BULATOVA, I. G., SAVEL'YEV, A. Ya.

"Description of the 'Avtor' Language"

Kiev, Mat. i inform. probl. prognozir. i upr. naukoy--sbornik (Mathematical and Informational Problems in the Prediction and Control of Science--collection of works), 1971, pp 123-136 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V629)

Translation: The paper describes the "Avtor" automatic programming language. A unit of action in the language is an operator. The basis of recording is a sequence of events separated by a symbol (virgule). Attached to the sequence of events are a question in which the student is given a problem in addition to an explanation, and a marked "wait" operator. Such a combination of question, "wait" operator and sequence of events is called a topic in the "Avtor" language. The instructors program is a sequence of topics. The Backus notation is used to describe the structure of the language. A fragment of recording of academic information in the "Avtor" language is presented.

1/1

USSR

UDC 51:621.391

ALEKSEYEV, V. YE., and MARKOV, AL. A.

"Combinatorial Algebra Problems in Coding Theory"

V sb. Izbr. tr. Vses. mezhvuz. simpoz. po prikl. mat. i kibernet., Gor'kiy, 1967 (Selected Works of the All-Union Inter-VUZ /Higher Educational Institution/ Symposium on Applied Mathematics and Cybernetics, Gor'kiy, 1967 -- Collection of Works), Moscow, "Nauka," 1973, pp 283-285 (from RZh-Matematika, No 6, Jun 73, Abstract No 6V467 from authors' summary)

Translation: The article considers three problems in information theory which involve the formulation of problems of a combinatorial algebra character. The first of them reduces to a characterization of the construction of generating sets of free semigroups, the second consists in studying cyclic decompositions of Steiner triple systems, the third represents an interesting problem in partition theory. A review is given of results obtained by the authors on these questions, as well as results known from the literature, and unsolved problems in each of these areas are formulated.

USSR

ALEKSEYEV, V. Ye., MARKOV, Al. A.

"Combinatorial-Algebraic Problems of Coding Theory"

Izbr. Tr. Vses. Mezhvuz. Simpoz. po Prikl. Mat. i Kibernet., Gor'kiy, 1967
[Selected Works of All-Union Interuniversity Symposium on Applied Mathematics and Cybernetics, Gor'kiy, 1967], Moscow, Nauka Press, 1973, pp 285-285
(Translated from Referativnyy Zhurnal Kibernetika, No 6, 1975, Abstract No 6V467, by the authors).

Translation: Three problems from information theory are studied, leading to a statement of problems of combinatorial-algebraic nature. The first is reduced to the characteristics of construction of generating sets of free semigroups, while the second consists in studies of cyclical expansions of systems of Steiner triads, and the third is an interesting problem from the theory of subdivisions. A review is presented of results on these problems, both produced by the authors and known from the literature, and unsolved problems in each of these areas are formulated.

USSR

UDC 536.5.082.6(088.8)

ARANOVICH, R. M., VYATICH, L. A., FUKS-RABINOVICH, S. I., ALEKSEYEV, V. YA.

"Non-Contact Temperature Measurement of the Surfaces of Heated Objects"

USSR Author's Certificate No 250500, filed 28 Feb 66, published 12 Jan 70
(from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 8, Aug 70, Abstract
No 8.32.569 P)

Translation: A method of non-contact measuring of the temperature of surfaces of heated objects by means of scanning the thermal image of the object on the screen of a cathode ray tube and its analysis is patented. In order to raise the accuracy of measurement, two standard control heaters are introduced into the field of vision, the radiation intensity of one of them and a selected point on the image line are equalized and using this value as the known level of measurement and the known difference in radiation intensity of standard heaters as the temperature scale. The measured temperature is judged according to the corresponding voltage curve on the recording instrument.
V. S. K.

1/1

USSR

UDC 551.469.11

ALEKSEYEV, V. V., BLINKOV, V. M., Department of Physics of the Ocean and
Inland Bodies of Water, Moscow State University

"Convective Motion of Liquid in a Two-Dimensional, Rectangular, Extended Reser-
voir Heated From Below"

Moscow, Vestnik Moskovskogo Universiteta, Ser. III, Fizika, Astronomiya, Vol
13, No 6, Nov/Dec 72, pp 644-654

Abstract: The authors study the relation between critical Grashof numbers
and the length of a two-dimensional rectangular tank which is heated from
below. It is shown that as the length of the reservoir increases, the lower
critical number approaches some positive limit, while the critical numbers
corresponding to secondary currents increase asymptotically as the fourth power
of the solution number.

1/1

2/2 025

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0123320

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS PRESENT A THEORETICAL DISCUSSION OF EXPERIMENTAL CHARACTERISTICS OBTAINED IN EARLIER WORK (1-4) FOR THE PENETRATION, REFLECTION, AND ABSORPTION OF INERT GAS IONS (HE PRIME POSITIVE, NE PRIME POSITIVE, AND AR PRIME POSITIVE) WITH MEAN ENERGY VALUES OF E_{SUBO} EQUALS 3-30KEV IN THIN FILMS OF METAL (AL, CU, AG, AND AU) AND SEMICONDUCTORS (SI AND GE). A METHOD IS PROPOSED FOR DETERMINING THE SCATTERING (DISTRIBUTION) OF TRANSVERSE MEAN FREE PATH (IONS WHICH DID NOT PASS THROUGH), OF ABSORBED AND OF REFLECTED IONS. TRANSVERSE MEAN FREE PATH SCATTERING CURVES ARE OBTAINED FOR THE MATERIALS STUDIED. AVERAGE TRANSVERSE MEAN FREE PATHS ARE INTERPOLATED AND THEIR DEPENDENCE ON INITIAL ION ENERGY EXPLAINED. CHARACTERISTICS ASSOCIATED WITH THE INTERACTION OF INERT GAS IONS WITH A SOLID ARE DISCUSSED.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--INTERACTION OF INERT GAS IONS WITH THIN FILMS OF A SOLID -U-
AUTHOR--(03)-VYATSKIN, A.YA., MAKAROV, K.A., ALEKSEYEV, V.V.
COUNTRY OF INFO--USSR A
SOURCE--MOSCOW, RADIOELEKTRONIKA I ELEKTRONIKA, NO 3, 1970, PP 558-564
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--INERT GAS, ION, METAL FILM, GERMANIUM SEMICONDUCTOR, SILICON
SEMICONDUCTOR
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1362 STEP NO--UR/0109/70/000/003/0558/0564
CIRC ACCESSION NO--AP0123320
UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0105349
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE (D,P) REACTION WAS STUDIED FOR
ENRICHED ISOTOPES OF PRIME48 TI(97.8PERCENT), PRIME49 TI(72.5PERCENT),
PRIME50 CR(90.0PERCENT), AND PRIME52 CR(83.7PERCENT) AT A D ENERGY OF
13.6 MEV. THE DIFFERENTIAL CROSS SECTIONS ARE MEASURED FOR TRANSITIONS
TO THE GROUND, AND TO THE 1ST EXCITED STATE. THEORETICAL PREDICTIONS
ARE COMPARED WITH THE EXPTL. DATA. FACILITY: KIEV. GOS. UNIV.
IM. SHEVCHENKO, KIEV, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--D,P REACTIONS ON SOME TITANIUM AND CHROMIUM ISOTOPES -U-

AUTHOR-(05)-ALEKSEYEV, V.V., POLYANSKIY, V.N., TERENTSKIY, K.G.,
TOKAREVSKIY, V.V., SHCHERBIN, V.N.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 194-200

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--TITANIUM ISOTOPE, CHROMIUM ISOTOPE, DIFFERENTIAL CROSS
SECTION, EXCITED NUCLEUS, DEUTERON BOMBARDMENT, PROTON SCATTERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1988/0275

STEP NO--UR/0048/70/034/001/0194/0200

CIRC ACCESSION NO--AP0105349

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AM0130577
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: INTRODUCTION
5. CHAPTER I. OPERATIONAL PROCESSES IN PISTON AND COMBINATION ENGINES
11. II. PARAMETERS CHARACTERIZING PISTON ENGINES 39. III. THE
WORKING PRINCIPLE OF THE ENGINES 57. IV. GASOLINE ENGINES 145. V.
DIESEL ENGINES 204. VI. GAS ENGINES 324. VII. SPECIAL DESIGNS OF
ENGINES 358. THIS IS A TEXT BOOK WRITTEN FOR THE COURSE "INTERNAL
COMBUSTION ENGINES" OF THE MOSCOW HIGHER TECHNICAL SCHOOL AND CONTAINS A
DESCRIPTION OF THE WORKING PRINCIPLE AND OPERATION OF PISTON INTERNAL
COMBUSTION ENGINES OF ALL TYPES AND ALSO THE SPECIAL FEATURES OF THE
OPERATION AND DESIGN OF COMBINATION AND ROTOR PISTON ENGINES. THIS IS
THE FIRST VOLUME OF A FOUR VOLUME EDITION ON "INTERNAL COMBUSTION
ENGINES".

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--DESIGN AND OPERATION OF PISTON COMBINATION ENGINES -U-
AUTHOR-(05)-ORLIN, A.S., ALEKSEYEV, V.P., KOSTYGOV, N.I., KRUGLOV, M.G.,
KRYLOV, A.N.
COUNTRY OF INFO--USSR A
SOURCE--DESIGN AND OPERATION OF PISTON COMBINATION ENGINES. SEC. ED., REV.
AND EXP. (USTROYSTVO I RABOTA PROSHNEVYKH I KOMBINIROVANNYKH DVIGATELEY)
DATE PUBLISHED-----70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--DIESEL ENGINE, GASOLINE ENGINE, INTERNAL COMBUSTION ENGINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/1715 STEP NO--UR/0000/70/000/000/0001/0383

CIRC ACCESSION NO--AM0130577
UNCLASSIFIED

USSR

ALEKSEYEV, V. N., SEMCHENKO, V. V., Nauch. konf. In-t mekh. Mosk. un-ta, Moskva, 22-24 maya, 1972 g. Tezisy dokl., Moscow, 1972, pp 4-5

covered when the photographs are analyzed. Procedural experiments with flat delta wings at a Mach number $M=3$ and Reynolds number $R=7.7 \cdot 10^6$ and comparison with theory showed satisfactory (within 3%) coincidence of geometric flow components. In connection with particulars of the mechanism of formation of the shadow pattern, gas densities are determined with low precision.

The paper gives the results of systematic studies of internal regions of V-wing models at various attack, pointing and vertex angles. As shock waves interact, Mach configurations with lines of contact discontinuity are observed. Three stages of interaction between an incident shock and a turbulent boundary layer are traced: nondetached flow, nucleation of detached flow and branching of the shock, detachment of the boundary layer and bending of stream lines in the inner region. To check the applicability of the procedure to three-dimensional noncircular flows, an investigation is made of flow around a cylindrical projection, and around a control element projecting out of the plane.

2/2

- 151 -

USSR

UDC: 532.57+532.137+536.51+532.14.08+531.767

ALEXSEYEV, V. N., SEMCHENKO, V. V.

"Investigation of Conical Flows by a New Optical Method"

V sb. Nauch. konf. In-t mekh. Mosk. un-ta, Moskva, 22-24 maya 1972 g. Tenisy dokl. (Scientific Conference. Institute of Mechanics, Moscow University, Moscow, 22-24 May 1972. Abstracts of Papers), Moscow, 1972, pp 4-5 (from RZh-Mekhanika, No 9, Sep 72, Abstract No 9B1389)

Translation: A new method is proposed for optical investigation of three-dimensional flows. The essence of this method consists in the fact that the emission of a pulse laser is injected into the working section of a wind tunnel, and focused on the surface of the model to produce an explosion jet there. The flow region is illuminated both by the emission from the jet and by diffusely reflected laser emission. The authors analyze the main principles governing formation of the shadow pattern on the basis of relations of geometric optics for a model in the form of a flat delta wing. It is shown that in regions close to the plane of symmetry, the shadow pattern is registered with small distortions. Far from the plane of symmetry, the distortions are considerable, but the shadow pattern can be re-

USSR

UDC 534.231.2

ALEKSEYEV, V. N., and FROLOV, V. M., Acoustics Institute of the Academy of Sciences USSR, Moscow

"Equations for Statistical Moments of a Wave Field in a Random Heterogeneous Medium"

Moscow, Akusticheskiy Zhurnal, Vol 18, No 4, Oct-Dec 72, pp 506-512

Abstract: Results obtained by V. I. Tatarskiy (Journal of Experimental and Theoretical Physics, 1969, Vol 56, No 6, pp 2106-2117) and L. A. Chernov (Ibid. 1969, Vol 15, No 4, pp 594-603) in form of functions for statistical field moments with random heterogeneities are extended for the case of arbitrary correlation between the wave length and the degree of heterogeneities. Integro-differential equations are deduced for statistical field moments of any order without imposed restrictions on the magnitude of field fluctuations, proceeding from the wave equation in the form $\Delta p + k^2[1 + \xi(r)]p = 0$, where the characteristic of the medium $\xi(r)$ is a random function. In special cases of small-scale and large-scale heterogeneities, the equations reduce to differential equations. A derived final function for the statistical moment of n-order is regarded as a system of equations for the determination of the statistical moment $\langle M_{ne} \rangle$ of the random field $p(r)$ as function of n variables. Estimates of made approximations are given. Twenty one formulas, three biblio. refs.

1/1

USSR

ALEKSEYEV, V. M.

"The Problem of Applicability of a Laplace Transform to the Study of Linear Stochastic Systems"

Ukr. mat. zh. [Ukrainian Mathematics Journal], 1975, 25, No 2, pp 261-264 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1975, Abstract No 8 V96 by the author)

Translation: The possibility is proven of applying a Laplace transform to the study of a system of linear differential equations such as

$$\dot{Y}(t, \omega) = [A + \mu B(t, \omega)] Y(t, \omega), \quad Y(0) = E,$$

where μ is a parameter, A is a stable $n \times n$ matrix with characteristic values of the form $i\omega_k$, the elements of the matrix $B(t, \cdot)$ are random processes, stable in the broad sense, satisfying certain limitations. Conditions of mean square stability of such systems are produced, and an example of a second order system is studied.

1/1

- 21 -

C. Application of Theoretical Probability and
Statistical Methods

USSR

ALEKSEYEV, V. M.

"Study of the Motion of a Gyroscopic Pendulum with Random Vibrations
at the Base"

Mat. fizika. Resp. mezhved. sb. [Mathematic Physics. Republic Inter-
departmental Collection], 1973, No 13, pp 3-5 (Translated from Refera-
tivnyy Zhurnal - Kibernetika, No 8, 1972, Abstract No 8 V220 by the
author)

Translation: Conditions of mean square stability for the motion of a
gyroscopic pendulum on a vibrating base are produced. It is assumed
that the vibrations are stable random processes with known spectral
characteristics and that the deformations of the elements of the gyro-
pendulum are slight.

1/1

USSR

UDC 621.319.4.002.5

PSHENICHNYY, I. S., NIKITIN, V. A., YAKUSHEV, S. G., BUDKIN, I. A.,
ALEKSEYEV, V. L., ARBUTOV, A. D.

"A Device for Applying Silver Paste to Ceramic Disc Capacitor Blanks"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
1970, No 33, Soviet Patent No 285112, class 21, filed 8 May 69, published
29 Oct 70, p 58

Translation: This Author's Certificate introduces a device for applying silver paste to ceramic disc capacitor blanks. The unit contains a rotating disc for transporting the blanks. Around the periphery of the disc are multiple-place cartridges with sockets for the blanks. The device also contains a mechanism for applying the paste to the blanks which is fitted with punches. Also included in the device are a drying chamber and a drive mechanism. As a distinguishing feature of the patent, the precision and productivity of the device are improved by placing hollow split sleeves with spring-loaded lugs in the cartridge pockets. Rods fit into these hollow sleeves and open them, and the punches are located on both sides of the cartridges.

1/1

USSR

UDC: 621.319.4(088.8)

PSHENICHNIY, I. S., BUDKIN, I. A., ALEKSEYEV, V. L., STACHKOV, V. N.,
KORNEYEV, A. D., USPENSKIY, D. N.

"A Device for Testing Capacitors With Respect to Electric Parameters"

USSR Author's Certificate No 283416, filed 17 Apr 69, published 10 Dec 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V384 P)

Translation: This Author's Certificate introduces a device for testing capacitors with respect to electric parameters. The device consists of a vibration hopper with power supply, a transport mechanism, contact groups, and memory and sorting elements. As a distinguishing feature of the patent, automatic operation of the device is provided by making the memory element in the form of a light display panel with signal lamps in a number corresponding to the number of capacitors to be tested, and the analyzing element is a pointer with a photocell located above the lamps and kinematically coupled to the transport disc and providing electrical control of the sorting unit.

1/1

USSR

UDC: 621.319.4(088.8)

BUDKIN, I. A., ALEKSEYEV, V. L., STAZHKOV, V. N., KORNEYEV, A. D.,
USPENSKIY, D. N., KOSHURO, V. A., BUDIN, V. I.

"A Case for Flat Capacitors"

USSR Author's Certificate No 283414, filed 12 May 69, published 10 Dec 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V387 P)

Translation: This Author's Certificate introduces a casing for flat capacitors of fixed value. The cartridge is made in the form of a ruler with reinforcing ribs fitted with locators for the capacitor leads. As a distinguishing feature of the patent, in order to improve the reliability of locating the leads, the casing is equipped with H-shaped transverse guide bridges and longitudinally oriented lobes.

1/1

USSR

UDC: 620.193.55

A
ALEKSEYEV, V. I., BOGOLYUBSKIY, S. D., USHAKOV, I. S., and SHVARTSMAN, L. A.,
Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"Thermodynamic Evaluation of the Tendency of Steels to Hydrogen Corrosion"

Moscow, Mashchita Metallov, Vol. 6, no. 4, Jul-Aug 70, pp 597-603

Abstract: Forms of hydrogen corrosion, such as cracking along grain boundaries and denydrogenization, are caused primarily by the interaction of hydrogen with the carbon of the steel to form methane, which produces high pressures in the steel's micropores. Use was made of thermodynamic activities of carbon measured by the circulation method of gas equilibria to calculate equilibrium pressures of methane in the micropores of austenitic chromium-nickel steels Kh25Ni20S2 , Kh25Ni25G6V5MBAR , and Kh18Ni10T within 700--1000°C. By comparing the strength characteristics of the steels with the methane pressure in the micropores, it is possible to evaluate their tendency to failure. A correlation is noted between hydrogen resistance (found by testing steel in hydrogen) and the carbon activity, making it possible to determine the tendency of steels to hydrogen corrosion without having to resort to protracted and relatively inefficient laboratory tests in hydrogen.

1/1

USSR

ALEKSEYEV, V. I., et al., Zashchita Metallov, Vol 6, No 6, Nov-Dec 70, pp 735-737

and accumulation of methane in the micropores of the steel to pressures leading to small, probably elastic deformation of the matrix. The plastic properties of the steel practically do not change. On reaching the critical pressure, intense growth of the pores begins, controlled, probably, by the laws of elasticity and plasticity and also by the rate of methane accumulation in the micropores. The plastic properties of the steel become worse, and this is considered the second step of the incubation period. As a result of growth and merging of the micropores, microcracks are formed, increasing the hydrogen penetrability of the steel and its contact surface with the hydrogen atmosphere, leading to sharply intensified decarburization. Thus, the swelling of steel 45 after holding in hydrogen at 500° and 100 technical atmospheres up to 14 hours is small, but holding it for 21 hours leads to a significant decrease in density and plasticity. This can be related to reaching the critical methane pressure in the pores during this time, leading to accelerated crack development and decarburization.

2/2

Corrosion

USSR

UDC 620.193.55

ALEKSEYEV, V. I., ARCHAKOV, YU. I., BOGOLYUBSKIY, S. D., and SHVARTSMAN, L. A.

"Incubation Period of Hydrogen Corrosion of Carbon Steel"

Moscow, Zashchita Metallov, Vol 6, No 6, Nov-Dec 70, pp 735-737

Abstract: This article contains the results of a study of the incubation period of hydrogen corrosion of carbon steel. From the data on the variation of the density of steel 45 as a function of the time under the effect of hydrogen and also the distribution of the relative carbon content in U10A steel after holding in hydrogen for 6, 10, and 14 hours it is concluded that the time before the beginning of hydrogen corrosion is 14-21 hours, which agrees satisfactorily with the results calculated by the earlier derived empirical equation. The mechanism of the extremal nature of the change in density $\Delta\rho$ as a function of the holding time in hydrogen is discussed. During a 14-hour period the processes of shrinkage and swelling of the steel develop predominately in the thin surface layer. However, when holding for 21 hours the swelling not only greatly exceeds the contraction but it also extends to a significant depth.

It is concluded that the incubation period of hydrogen corrosion can be subdivided into two steps. In the first step there is surface decarburization

1/2

USSR

ALEKSEYEV, V. I., et al., Izvestiya Akademii Nauk SSSR, Metally,
No 1, Jan 71, pp 134-141

activity of carbon and the tendency of steels to hydrogen corrosion
is demonstrated.

2/2

- 64 -

Steels

USSR

UDC 669.15-194.2:669.046.542

ALEKSEYEV, V. I., BOGOLYUBSKIY, S. D., USHAKOV, I. S., and
SHVARTSMAN, L. A., Moscow

"Activity of Carbon in Low-Alloy Steels and Their Tendency to Hydrogen Corrosion"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan 71, pp 134-141

Abstract: A circulation method is used to study the equilibrium of H_2-CH_4 mixtures with the carbon in steels. Steels studied included carbon steel, types 15KhM, 30KhMA, and 40Kh, in the 550-900°C temperature interval. The temperature dependence of thermodynamic activity of carbon was determined. In low-alloy steels types 15KhM, 30KhMA, and 40Kh (0.38 wt. %C) at temperatures below the eutectoid, the activity of carbon is significantly less than in Fe-C alloys in the two-phase α + graphite area. Therefore, graphitization of these steels at these temperatures is impossible. The presence of a correlation between the

1/2

USSR

VIBE, K. G., et al., Doklady Akademii Nauk SSSR, Vol 199, No 6, 1971,
pp 1,453-1,455

of absorption capacity in the beginning; it then begins to decline, attaining its norm within 96 hours after the beginning of the experiment. The assumption is that the larger dose stimulates the inhibitory process, reduces the functional activity of the intestinal mucosa, thereby depressing the function of the digestive system.

2/2

- 24 -

USSR

UDC 612.014.44

VIBE, K. G., ALEKSEYEV, V. I. and FAYTEL'BERG-BLANK, V. R., Tselinograd
Agricultural Institute and Odessa Agricultural Institute

"Effect of Short-Wave Ultraviolet Irradiation on Absorption Functions of the
Small Intestine"

Moscow, Doklady Akademii Nauk SSSR, Vol 199, No 6, 1971, pp 1,453-1,455

Abstract: Dogs with an isolated loop of small intestine were exposed to short-wave ultraviolet irradiation of the epigastric region with 1.5 and 3 biological doses. The absorption capacity of the intestine was determined by introducing into the organ 20 ml of a 7% sugar solution for periods of 30 minutes. The unabsorbed part of the solution was then extracted, and the loop washed with distilled water. The amount of sugar absorbed was determined on the basis of the difference between the quantity administered and that extracted, with allowance for secretion. The experiments established that ultraviolet rays in a 1.5 biological dose intensify sugar absorption in the small intestine, increasing it in some cases from the norm of 332.8 to 604 mg within 1.5 hours after the beginning of the experiments. It then begins to decline reaching the initial norm within 48 hours after the irradiation. Irradiation with 3 biological doses causes only a brief and slight elevation

1/2

USSR

UDC 669.018.75.531.44

KOVAL'CEENKO, M. S., ALEKSEYEV, V. I., and SEMEDA, N. N., Institute of Problems of Material Science, Academy of Sciences Ukrainian SSR

"Friction of Hard Alloys in a Vacuum at Low Temperatures"

Kiev, Poroshkovaya Metallurgiya, No 5, May 73, pp 88-93

Abstract: The effect of cooling (down to 93°K) on friction and wear characteristics was studied for hard alloys when extremely severe test conditions -- friction with seizure -- are created. Alloys tested were the VK15 and TiC-18%Ni (33% by weight). The lowered temperature reduces the friction coefficient for hard alloys which was associated with increased resistance to the mutual rubbing of contacting micro-roughnesses due to increased aggregate hardness of the materials upon cooling and a decreased area of actual contact of the working materials. The presence of a plastic lubricant in the VK15 hard alloy promotes the origination of nodules on the contacting surfaces, causing local non-uniform wear which can be observed during friction at 93°K. Cermet are distinguished by the antifriction properties from the initial components, which can be explained by the heterogeneity of their structure and phase composition. The quality of the friction surface and the wear resistance of the material depend on the material's tendency to become brittle when cooled, and is determined by the phase composition of the hard alloy. 3 figures, 1 table, 9 bibliographic references.

1/1

USSR

UDC: 681.327

ALEKSEYEV, V. G.

"Some Problems of Regulating the Quality of Magnetic Heads for Computer Memories"

Standartiz. i kachestvo produktsii (Standardization and Quality of Production), Yerevan, 1970, pp 223-225 (from RZh-Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 9, Sep 70, Abstract No 9B429)

Translation: When designing and manufacturing magnetic heads it becomes necessary to isolate a group of critical parameters defining the technical and operating characteristics of the magnetic heads. It is noted that for solving this problem, in a number of cases, the methods of random balance and rank correlation can be used. However, the application of multifactor regression analysis offers broader possibilities. The mathematical model of the magnetic heads obtained by this method permits objective isolation of the most important parameters and efficient solution of the problems of analysis and synthesis of magnetic heads in the planning and design stage. The bibliography has three entries.

1/1

USSR

ALEKSEYEV, V. G.

"Empirical Spectral Analysis of Gaussian Homogeneous and Isotropic Random Fields"

Teoriya Veroyatnostey i yeye Primeneniya [The Theory of Probabilities and Its Applications], 1973, Vol 18, No 2, pp 280-288 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V120)

Translation: Estimates are studied of the spectral density (as well as its derivatives) of Gaussian homogeneous and isotropic random fields, represented in the form of integrals of the product of a period diagram times a certain weight function (the spectral window of the estimator). As in earlier works by the author dedicated to the case of gaussian unstable processes, we will attempt to select the spectral window so as to minimize the mean square error of estimation (or, more precisely speaking, the top estimate for it, since we must use approximate estimates of the dispersion and displacement). It must be assumed in this case that there is a certain a priori information on the degree of smoothness of the spectral density of interest to us. The methods of investigation which we use are quite similar to the methods of operation of the author of (RZhMat, 1972, 3V159) but, in place of the Fourier series arising due to the assumption of discreteness of time, Fourier integrals are used here.

From the introduction

USSR

UDC 577.4

ALEKSEYEV, V. E.

"Number of Simple Bases in k-Valued Logic"

V sb. Diskretn. analiz. (Digital Analysis -- collection of works), vyp. 19, Novosibirsk, 1971, pp 3-10 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V399)

Translation: Let $S(k)$ be the number of simple bases in k-valued logic. It is demonstrated that for $k \rightarrow \infty$, $\log_2 S(k) \sim k^{k-1} - (k-1)!$.

1/1

USSR

UIC (21.385:550.145.6:001)

A
ALEKSEYEV, V. A., KROTIKOV, V. D., Scientific Research Institute of Radio Eng. Sci.

"A Device for Shaping Coherent Radio Interferometer Signals"

USSR Author's Certificate No 258454, Filed 8 Jan 66, Published 10 Apr 70 (Zhurav
RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D498 P)

Translation: This Author's Certificate introduces a device for shaping coherent radio interferometer signals. The device contains two reception channels, each of which is made up of an amplifier, mixer and oscillator. As a distinguishing feature of the patent, the effect of fluctuations in the electrical lengths of the communication lines between antennas is reduced by connecting the output of the oscillator of the first reception channel through a communication line to the input of the mixer in the second reception channel and simultaneously to the input of the mixer in the given channel, while the output of the oscillator in the second reception channel is connected through a communication line to the second input of the mixer in the first channel and simultaneously to the second input of its own channel.

USSR

ANDREYEV, A.A., et al, Fizika i tekhnika poluprovodnikov, Vol 6, No 4, Apr 1972, pp 661-666

however, does not exclude the electron mechanism as initiating the switching process. The studies of fluid semiconductors show that a structural phase transition is not compulsory for manifestation of the effect. 9 fig. 9 ref. Received by editors, 14 July 1971.

2/2

USSR

UDC 621.315.592

ANDREYEV, A.A., ALEKSEYEV, V.A., LEBEDEV, E.A., MAMADALIYEV, M., MELEKH, B.T.,
REGEL', A.R., RYZHKOV, YU.P. [Institute Of Semiconductors, Academy Of Sciences,
USSR, Leningrad]

"Switching Effect In Fluid Semiconductors"

Fizika i tekhnika poluprovodnikov, Vol 6, No 4, Apr 1972, pp 661-666

Abstract: The switching effect is studied in a number of fluid semiconductors and the voltampere characteristics are shown for fluid Se (410°C), solid and fluid Sb_2S_3 (460 and 570°C) and As_2Se_3 up to softening temperature (170°C) and above (210°C). The circuit for measuring the voltampere characteristics of the switching effect is described. The high stability is emphasized of the switching effect in Se and Sb_2S_3 over a wide range of temperatures. An illustration is presented of relaxation oscillations in fluid selenium with a frequency of 10 MHz at a temperature of 230°C . The results of the observations show that the switching effect is also found in fluid semiconductors. The effect is consistently observed over a wide range of temperatures. The effect is observed for materials with various values of the absolute conductivity from 10^{-9} (Se) to $10^{-1}\text{ohm}^{-1} \times \text{cm}^{-1}$ (Sb_2S_3). By a combination of the relationships revealed, the switching effect at high temperatures carries a mainly thermal character. This statement,
1/2

USSR

UDC 621.391.2

ALEKSEYEV, V. A., ANTONETS, M. A., GATELYUK, E. D., ZHIVORA, P. S., IVANOV, B. S., KRYUKOV, A. YE., TIKHONOV, YU. A., YANKAVTSEV, M. V.

"Interference Correlometer using a Digital Computer"

Moscow, Radiotekhnika i elektronika, Vol XVII, No 2, 1972, pp 332-339

Abstract: Specific problems connected with the construction of a correlation detection system in which the receivers are located at a distance excluding the possibility of direct coupling with the correlator are discussed. The problems of constructing the interference correlometer with recording of the investigated signals at each point on magnetic tapes and calculation of the correlation function on a digital computer are considered. The peculiarities of calculating the correlation function connected with the application of superheterodyne receivers are noted, and results are presented from laboratory checking of the system. Satisfactory coincidence of the experimental and theoretical results was obtained. For 10 kilohertz $< F < 75$ kilohertz and $T = 30$ seconds, the correlation gain of the developed system $G = 1000$. The investigated system can also be used for autocorrelation and cross correlation analysis of processes represented by electric signals and for spectral analysis of signals represented in analog form for multilevel quantization at a digital computer input.

1/1

USSR

UDC 621.317.799:621.382.2

A
ALEKSEYEV, V. A., SYCHEV, N. F., SUSHKOV, A. I.

"Automatic Reading of Current--Voltage Characteristics of Film Diodes with Use of Control Computer"

V sb. Avtomatiz. izmereniy parametrov poluprovodn. priborov (Automatic Measurement of the Parameters of Semiconductor Devices -- Collection of Works), Riga, "Zinatne," 1969, pp 91-98 (from RZh--Elektronika i yeye primeneniya, No 5, May 70, Abstract No 5B509)

Translation: A Type UMI-Nkh Control Digital Computer [UTsVM] with an analog input and output is used. Voltage at a semiconductor diode (SD) and current through the SD, and also the temperature of the SD are measured and introduced into the computer by the corresponding analog input channels. Delivery of a smoothed current--voltage characteristics to the coordinates "logarithm of the current--root of the voltage" is performed by two analog output channels on a two-coordinate recording instrument. Reading of the next current--voltage characteristic is performed at an increase of the temperature of the SD of 200° C with reference to the temperature at which the previous characteristic was taken. Information is distributed also to a 5-track punched tape in the Mā international telegraph code. 4 ill. 1 ref. Summary.

1/1

USSR

UDC: 681.142.621

ALEKSEYEV, V. A., BELOMESTNYKH, V. A., V'YUKHIN, V. N., KASPEROVICH, A. N.,
POPOV, Yu. A., SOLOVENKO, V. I., Novosibirsk

"A Multipoint High-Speed Digital System for Data Collection and Storage"

Novosibirsk, Avtometriya, No 4, Jul/Aug 71, pp 40-50

Abstract: The article describes a multipoint high-speed digital system for data collection and storage developed at the Atomic Energy Institute of the Siberian Department of the Academy of Sciences of the USSR for converting a large volume of analog information to digital form prior to computer input. The system contains a level-fixing module, a commutator with its own control unit, a data-stacking unit, a core store, a system control unit, and a CRT display. Block and circuit diagrams are presented, and the purpose and operation of each element of the system is described. Initial tests of the pilot model of the system have shown that it satisfies the design requirements. Printed-circuit construction is used, and the system is accommodated in two equipment bays -- one for the system proper, and the other for the core store. Seven figures, two tables, bibliography of two titles.

1/1

USSR

ALEKSEYEV, V. A., et al, Doklady Akademii Nauk SSSR, vol 207, No 6, 1972, pp 1306-1307

structure of the line, conducted with a laser containing a mixture of Ne^{20} and Ne^{22} , is described.

2/2

USSR

UDC 537.521

ALEKSEYEV, V. A.; BASOV, N. G., Academician; BELENOV, E. M.;
DANILEYKO, M. V.; VOL'NOV, M. I.; GUBIN, M. A.; NIKITIN, V. V.;
TROSHAGIN, V. N.; P. N. Lebedev Physics Institute, Moscow

"Spectroscopy Inside a Uniform (Radiation) Line"

Moscow, Doklady Akademii Nauk SSSR, vol 207, No 6, 1972, pp 1306-1307

Abstract: A method is proposed and realized for finding the shift, 2Δ , between the spectral components of a line in the radiation of atoms or molecules, and in such cases when the 2Δ value is much less than the uniform or radiation width. The method is based on the concurrence of spatial and frequency attenuation effects of the medium in a ring laser. The dependence of the qualitatively different oscillation modes of the laser on the frequency difference Δ permits recording the presence of the Doppler broadening of the line for Δ by an amount much less than for the uniform width. It is found that, from the viewpoint of the accepted criterion of spectral line resolution, the sensitivity of the proposed method can be multiplied by 10^2 - 10^4 times. The theory of the method is developed, and an experiment for resolving the fine
1/2

Food Technology

USSR

UDC 659.4.084.1-000.5.084.1

TOMME, M. P., and AMKSELEV, V. A., Candidate of Agricultural Sciences, All Union Scientific Research Institute of Animal Husbandry

"Use of Chlorella Suspensions in Feeding Chicken and Pigs."

Moscow, Doklady Vsesoyuznoy Ordona Lenina Akademii Sel'skokhozyaystvennykh Nauk imeni V. I. Lenin, No 4, 1970, pp 39-41

Abstract: The biochemical composition of Chlorella suspensions and the effect of feeding them on the growth and development of chicken and pigs were analyzed. Chlorella suspension is rich in biologically active materials: amino acids, vitamins, and microelements. Chicken growth increased by 3-6 percent and weight of pigs increased by 11 percent when Chlorella suspension was added to their diet. It had no ill effects on their appetite, the meat quality was not impaired, and the hematological picture remained unchanged.

USSR

UDC 621.355.82

ALEKSEYEV, V. A., ANDREYeva, T. I., SOBEL'MAN, I. I.

"On the Theory of Nonlinear Resonances of Gas Laser Power"

Preprint No 175, Physical Institute of the Academy of Sciences of the USSR,
Laboratory of Quantum Radio-Physics, Moscow, 1972, 22 pp, RZh-Fizika, No 9,
Sep 73, Abstract No 9D717

Translation: The form of the Lamb shift as a function of pressure is
theoretically examined, taking into account the effect of collisions on the
external and internal degrees of freedom of the atoms. It is shown that a
consideration of the change in velocity of the atoms in collision leads to a
nonlinear expression for the width and extent of the Lamb shift as a function
of pressure. Twelve bibliographic citations. Yu. M.

1/1

Lasers & Masers

USSR

UDC 621.375.826

ALEKSEYEV, V. A., KOZLOV, N. P., and PROTASOV, Yu. S.

"Organic-Dye Laser"

Moscow, Priory i Tekhnika Eksperimenta, November-December 1973,
pp 137-138

Abstract: The description is given of a laser containing an alcohol solution of 6Zh rhodamine excited by the radiation of the plasma focus of a pulse accelerator operating in a plasma of metals and dielectrics. Light sources with pulse energies of up to 7500 j were used for pumping. Other details and technical characteristics of the laser are given together with a sketch showing some details of the instrument's structure. The reflector was made of polished duralumin in the form of an elliptical cylinder with a major semiaxis of 240 mm and a minor semiaxis of 210 mm. The energy generated was in the spectral range of 593-599 nm and the generation time was about 16 μ s.

USSR

ALEKSEYEV, S. V., et al., Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, 1973, pp 18-21

acetylcholine reduces and epinephrine increases the reactivity of pail vessel muscles. Changes in vessel reactivity to the vaso-active substances probably stem from production of catecholamines in response to noise stress.

2/2

- 60 -

USSR

UDC 613.644-07:612.824

ALEKSEYEV, S. V., MAZURKEVICH, G. S., and KHRABROVA, O. P., Medical Institute of Sanitation and Hygiene, and Institute of First Aid imeni I. I. Dzhanelidze, Leningrad

"Changes in the Reactivity of Terminal Brain Vessels in Rats in Response to Stable Noise"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, 1973, pp 18-21

Abstract: Epinephrine and acetylcholine were applied directly onto the pia mater of rats subjected 100 db stable white noise to determine the reactivity of pial vessels to noise. While epinephrine alone did not cause changes in vessel diameter and blood flow rate, acetylcholine alone caused considerable, rapid dilation of arterioles and a weaker response in venules, but blood flow did not change significantly. Epinephrine plus noise produced sharp spasms of small arteries and arterioles. Vessel constriction continued to occur with epinephrine application after the noise was turned off. In the presence of noise, arterioles expanded less than in controls in response to acetylcholine in the first 2 min but began to dilate rapidly 15-20 min after noise was turned on. This effect persists with subsequent acetylcholine applications for 25-30 min after noise is turned off. Thus in the presence of noise

1/2

USSR

GETSEL', Kh. A., and ALEKSEYEV, S. V., Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenov, Vol 41, No 12, 1970, pp 1,758-1,766

These shifts were still in evidence two weeks after the last exposure.

USSR

UDC 621.824.1

GETSEL', Kh. A., and ALEKSEYEV, S. V., Central Scientific Research Laboratory and Chair of Labor Hygiene, Sanitary Hygiene Medical Institute, Leningrad

"Permeability of the Blood-Brain Barrier to Radiophosphorus and Phosphorus Metabolism in the Brain of Rats Exposed to Noise"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenov, Vol 41, No 12, 1970, pp 1,758-1,766

Abstract: Autoradiography of brain sections from rats exposed once or repeatedly to white noise (100 db) revealed a marked increase in permeability of the blood-brain barrier in the temporal region and horn of Ammon. After a single one-hour exposure to the noise, a large quantity of P³² penetrated these regions from the blood, but 24 hours later the distribution of the isotope was the same as in the controls. Thirty-eight days of daily one-hour exposures resulted in a sharp increase in specific activity in the temporal and hippocampal regions, and a decrease in specific activity in the limbic region and hypothalamus. The noise also reduced the rate of metabolism of macromolecular phosphorus compounds in various brain structures.

1/2

USSR

UDC 612.014.45-08

ANDREYEVA-GALANINA, Ye, Ts., ALEKSEYEV, S. V., and KADYSKIN, A. V., Sanitary Hygiene Medical Institute, Leningrad

"Use of Experimental Models in Studying the Effect of Noise on the Organism"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, Jul 70, pp 4-8

Abstract: The reliability of biological models in studying the effect of noise on hearing sensitivity and on various human organs, including the heart and blood vessel systems, is discussed. It is noted that heart activity, blood circulation, electrocardiograms, and the bioelectrical reactions of the brain and central nerve system are different in man and in animals and also vary considerably among different animal species. The noise stimulus is a specific stimulus affecting the hearing organ as well as the cerebrum to varying degrees; related studies must be made under well-controlled conditions, since noise effects on the body also depend on such parameters as pitch and intensity. When man is used as the test object in a noise-control chamber similar to that used in animal experiments, the observations made often differ from those made in an industrial environment. It is therefore important that tests on humans be made in the actual environment.

1/1

USSR

ANDREYEVA-GALINA, Ye. Ts., et al., Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, Jul 70, pp 39-42

drop in the functional activity of the regions of the central nervous system studied. Further research on the metabolic processes in the brain and the functioning of the entire brain would be desirable as a means of developing appropriate preventive measures and treatment.

USSR

UDC 612.81-06:612.014.45

ANDREYEVA-GALINA, Ye. Ts., ALEKSEYEV, S. V., KADYSKIN, A. V., and VORONTSOV, V. M., Sanitary Hygiene Medical Institute, Leningrad

"Electrophysiological and Biochemical Investigations of the Brain during the Experimental Action of Various Noise Parameters"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, Jul 70, pp 39-42

Abstract: The biological reactions to noise of various structures of the cortex (auditory, visual, and sensorimotor region) and subcortical structures of the cerebrum (specific and nonspecific nuclei of the thalamus, the reticular formation of the mesencephalon, and the pons varolii) were studied in 20 rabbits by means of chronically implanted intracerebral electrodes in the indicated brain structures. The animals were subjected to a constant noise in a special chamber. Tissue respiration of the cerebrum under the influence of noise was investigated. It was found that the oxygen requirement of the cerebral structures depends directly on the duration of the noise; the earliest shifts are observed in the auditory region. The disturbances in tissue respiration can be grouped into two subsequent phases: an activation phase, in which the intensity of tissue respiration is enhanced; and a depressive phase in which the oxygen requirement decreases sharply, indicating a

1/2

USSR

UDC 612.85.012.4

ALEKSEYEV, S. V.; and ANICHIN, V. F., Sanitary Hygiene Medical Institute,
Leningrad

"The Mechanism of Action of Various Frequency Noises on the Auditory
Receptor"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 8, Aug 71,
pp 25-28

Abstract: The hair cells of the organ of Corti were investigated in guinea pigs exposed for 30 minutes to 100 db noise of broad frequency range (white noise) and noise of four different octave ranges with geometrical averages of 250, 2,000, 6,000, and 12,000 hz. Changes in the concentration of RNA and in the size of the nuclei were observed only in the outer hair cells. The lowest frequency noise produced a slight decrease in RNA concentration and a small increase in nuclear volume almost throughout the length of the basilar membrane. With increasing wave frequency, these changes were shifted progressively more toward the basic portion of the cochlear duct, and they were more pronounced. The white noise produced changes irregularly distributed along the whole basilar membrane. It is concluded that the method of measuring RNA concentration and nuclear volume broadens experimental possibilities of studying the pathogenic effects of noise.

1/1

USSR

ZIL'BERFARB, M. I. (deceased), et al, Zashchita Metallov, Vol 6, No 5, Sep-Oct 70, pp 621-622

60-80°C, holding time 10 seconds, drying for 1 minute at 100-200°C; dipping the specimens in a zinc melt containing 0.2-5% aluminum; holding time in the melt 20 seconds, melt temperature 450°C. The coating thickness was measured by the increase in weight. The testing in a sulfur dioxide chamber was conducted at about 100% humidity at 60° C. SO₂ concentration was varied from 0 to 60 mg/m³. The higher corrosion resistance of coatings with an increased aluminum content in either a sodium chloride solution, tap, or distilled water is explained by the lower solubility of aluminum compounds formed on corrosion as compared to that of zinc compounds.

USSR

DOC: 671.795.5

ZIL'BERFARB, M. I. (deceased), ALEXSEYEV, S. N., GRISHIN, A. G., and STRUGOVA, Yu. A., Scientific Research Institute of Concrete and Reinforced Concrete

"Corrosion Resistance of Zinc-Aluminum Coatings Obtained From Molten"

Moscow, Zashchita Metallov, Vol 6, No 5, Sep-Oct 70, pp 621-622

Abstract: The object of this study was the corrosion resistance of zinc-aluminum coatings under atmospheric conditions in alkali media imitating conditions of corrosion in concrete. The base material was 08 kp cold-rolled steel after recrystallization annealing in a bell furnace and temper rolling. The surface preparation technology comprised degreasing with gasoline and a magnesium oxide paste followed by washing with cold water, etching in hydrochloric acid (150-170 g/l), rinsing with cold water, pickling in a mixture of H_2SO_4 (150 g/l) and HCl (50 g/l) for 10 seconds, rinsing with running water, fluxing by dipping in an aqueous solution (g/l) of $ZnCl_2$ 614, NH_4Cl 76, OP-7 1-2; temperature of the solution

USSR

MOCHALKINA, K. I., et al, Khimiya v Sel'skom Khozyaystve, Vol 8, No 4 (78),
Apr 70, pp 58-60

plant leaves, regardless whether the agent was sprayed over the leaves or introduced into the root system. This change in the intensity of the photoreemission indicated the time when a toxic agent entered the plant portion above the ground and by the same token gave data on the migration of the agents in soil.

2/2

USSR

UDC: 632.954 + 661.717.5

MOCHALKINA, K. I., ROMAN, L. L., GOLOVAN', A. M., ~~MOCHALKIN, A. I.,~~
~~ALEKSEYEV, S. I.~~, All Union Scientific Research Institute of Phytopath-
ology, Moscow, Ministry of Agriculture USSR; and ~~SOKOLOV, M. S.~~, Institute
of Biochemistry and Physiology of Microorganisms, Pushchino, Academy of
Sciences USSR

"Change in the Type of Photoinduced Plant Luminescences as a Result of
Herbicidal Action. Second Communication. Characteristics of the Action
of Aryldialkylurea Type of Herbicides on Photoreemission"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 8, No 4 (78), Apr 70, pp 56-60

Abstract: Chlorophyll molecules excited by light quanta can transform the
captured energy either chemically, or by means of photoreemission. Present-
ly herbicides of the phenyldialkylurea group are used widely to control
weeds and they specifically effect fluorescence and photophosphorescence.
Studying the mechanism of their action, the authors utilized a phosphores-
cencegraph, described earlier. It was determined that urea derivatives
affect both the characteristics and intensity of photoreemission of treated

1/2

2/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70
 CIRC ACCESSION NO--AP0107649
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FOR A TWENTY YEAR PERIOD
 (1949-1968) THE AUTHORS EXAMINED 30 PATIENTS, AGED UP TO 25 YEARS, WITH
 HYDROCEPHALY. THERE WERE 17 MEN AND 13 WOMEN. HYDROCEPHALY WAS THE
 RESULT OF CHRONIC SUPPURATIVE EPI OR EPIMESOTYMPANITIS IN 29 PERSONS
 (MORE OFTEN DURING EXACERBATION) AND ACUTE OTITIS MEDIA IN ONE CASE. BY
 THE CLINICAL PICTURE THE DISEASE WAS SIMILAR WITH CEREBRAL OR CEREBELLAR
 ABSCESS, REPELY, WITH MENINGITIS. CONGESTIVE MANIFESTATIONS ON THE
 FUNDUS OCULI WERE REVEALED IN 30 PATIENTS, IN A NUMBER OF CASES THERE
 WAS A DETERIORATION OF THE EYE VISION. REGRESS OF SYMPTOMS OCCURRED
 SLOWLY. IN THE MAJORITY OF CASES THE CEREBROSPINAL FLUID SHOWED NO
 INFLAMMATORY SIGNS, THE QUANTITY OF PROTEIN WAS LOW, RANGING FROM
 0.099PERCENT TO 0.26PERCENT, CYTOSIS, UP TO 4 CELLS. THE DIAGNOSIS OF
 UTOGENIC HYDROCEPHALY IN 17 PATIENTS WAS ESTABLISHED AS THE RESULT OF
 EXAMINATION, IN 13, AFTER UNSUCCESSFUL OPERATIVE SEARCH FOR CEREBRAL
 ABSCESS. OUT OF 30 PATIENTS 28 WERE SUBJECTED TO A RADICAL OPERATION ON
 THE EAR; ALL 30 PATIENTS, TO DEHYDRATION AND ANTIBIOTIC (UP TO
 5,000,000-6,000,000 UNITS DAILY) THERAPY; FOR THERAPEUTIC PURPOSES TWO
 PATIENTS WERE SUBJECTED TO LUMBAR PUNCTURE (OVER TEN TIMES), FOUR, TO X
 RAY THERAPY, ONE, TO DECOMPRESSION TREPHINING OF THE SKULL. 21 PATIENTS
 WERE DISCHARGED FROM THE HOSPITAL WITH RECOVERY, 8, WITH PERSISTENT
 RESIDUAL MANIFESTATIONS, ONE PATIENT DIED AS THE RESULT OF BLOCK ON THE
 LEVEL OF THE FOURTH VENTRICLE. FACILITY: KLINIKI BOLEZNEY UKHA,
 GORLA I NOSA AND KLINIKI NERVNYKH BOLEZNEY GOR'KOVSKOGO MEDITSINSKOGO
 INSTITUTA IM.S.M.KIROVA.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--OTOGENIC HYDROCEPHALY -U-
AUTHOR-(02)-LEYKINAS, N.L., ALEKSEYEV, S.I. A
COUNTRY OF INFO--USSR
SOURCE--VESTNIK OTORINOLARINGOLOGII, 1970, NR 3, PP 43-46
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BRAIN, MENINGITIS, CEREBROSPINAL FLUID, PROTEIN, SURGERY, EAR,
ANTIBIOTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/1168 STEP NO--UR/0607/70/000/003/0043/0046
CIRC ACCESSION NO--AP0107649
UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--04DEC70
 CIRC ACCESSION NO--AP0137224
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DIURON, MONURON, AND PHENOXYACETIC ACID (70PERCENT ETOH) AT CONCN. OF 0.1, 0.01, AND 0.001PERCENT WERE APPLIED TO THE LEAVES OF KIDNEY BEAN PLANTS AT THE FIRST BREAKING OF THE LEAVES TO THE ROOTS OF GERMINATED SEEDS, GROWN ON PERFORATED PLATES. A SHORT DISTURBANCE OF PHOTOREMISSION OF THE LEAVES OF THE PLANTS WAS NOTED LESS THAN 1 DAY AFTER TREATMENT. THE GREATEST ACTIVITY WAS SHOWN BY DIURON. SOY PLANTS GROWN IN A GREEN HOUSE WERE SPRAYED WITH AG. ACETYLCHOLINE OF LINURON AND MONURON AT DOSES 0.3 AND 1.0 KG-HA, RESP. PLOTS OF SOY WERE TREATED WITH THE SAME HERBICIDES 3 DAYS AFTER SOWING. PHOTOREMISSION OF THE LEAVES OF THE PLANTS WAS CHANGED, MONURON WAS THE MORE ACTIVE. INDEPENDENT OF HERBICIDES APPLICATION TO EITHER THE LEAVES OR THE ROOT SYSTEM, THERE WAS A CHANGE IN THE NATURE AND INTENSITY OF PHOTOREMISSION OF THE LEAVES. THE TIME OF MIGRATION OF THE HERBICIDE FROM THE ROOT SYSTEM TO THE ABOVE GROUND FOLIAGE COULD BE DETD. BY THE CHANGE OF PHOTOREMISSION OF THE LEAVES, AND THE TIME OF MIGRATION OF THE HERBICIDES IN THE SOIL. FACILITY: INST. BIOKHM. FIZIOL. MIKROORG., MOSCOW, USSR.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--06/23/11
TITLE--CHANGE IN THE NATURE OF THE PHOTOINDUCED LUMINESCENCE OF PLANTS
UNDER THE INFLUENCE OF HERBICIDES. 2. EFFECT OF ARYLDIALKYLUREA
AUTHOR--(05)-MOCHALKINA, K.I., ROMAN, L.L., GOLOVAN, A.M., MOCHALKIN, A.I.,
ALEKSEYEV, S.I.
COUNTRY OF INFO--USSR

SOURCE--KHIM. SEL. KHOZ. 1970, 8(4), 298-300

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ARYL RADICAL, ALKYL RADICAL, UREA, HERBICIDE, PLANT
PHYSIOLOGY, PHOTOCHEMISTRY, FLUORESCENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/0025

STEP NO--UR/0394/70/003/004/0290/0170

CIRC ACCESSION NO--AP0137224
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--11DEC70

IRC ACCESSION NO--AP0140479

ABSTRACT/EXTRACT--(U) GP-3- ABSTRACT. CHLOROPHYL MOLECULES EXCITED BY LIGHT QUANTA CAN TRANSFORM THE CAPTURED ENERGY EITHER CHEMICALLY, OR BY MEANS OF PHOTOEMISSION. PRESENTLY HERBICIDES OF THE PHENYLDIALKYLUREA GROUP ARE USED WIDELY TO CONTROL WEEDS AND THEY SPECIFICALLY EFFECT FLUORESCENCE AND PHOTOPHOSPHORESCENCE. STUDYING THE MECHANISM OF THEIR ACTION, THE AUTHORS UTILIZED A PHOSPHORESCENCEGRAPH, DESCRIBED EARLIER. IT WAS DETERMINED THAT UREA DERIVATIVES AFFECT BOTH THE CHARACTERISTICS AND INTENSITY OF PHOTOEMISSION OF TREATED PLANT LEAVES, REGARDLESS WHETHER THE AGENT WAS SPRAYED OVER THE LEAVES OR INTRODUCED INTO THE ROOM SYSTEM. THIS CHANGE IN THE INTENSITY OF THE PHOTOEMISSION INDICATED THE TIME WHEN A TOXIC AGENT ENTERED THE PLANT PORTION ABOVE THE GROUND AND BY THE SAME TOKEN GAVE DATA ON THE MIGRATION OF THE AGENTS IN SOIL. FACILITY: ALL UNION SCIENTIFIC RESEARCH INSTITUTE OF PHYTOPATHOLOGY, MOSCOW, MINISTRY OF AGRICULTURE USSR. FACILITY: INSTITUTE OF BIOCHEMISTRY AND PHYSIOLOGY OF MICROORGANISMS, PUSHCHINO, ACADEMY OF SCIENCES USSR.

UNCLASSIFIED

172 022 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--CHANGE IN THE TYPE OF PHOTOINDUCED PLANT LUMINESCENCES AS A RESULT
OF HERBICIDAL ACTION. SECOND COMMUNICATION. CHARACTERISTICS OF THE
AUTHOR--(05)--MOCHALKINA, A.I., ROMAN, L.L., GOLOVAN, A.M., MOCHALKIN, A.I.,
ALEKSEYEV, S.I.
COUNTRY OF INFO--USSR

SOURCE--MOSCOW, KHIMIYA V SEL'SKOM KHOZYAYSTVE, VOL 3, NR 4 (78), APR 70,
PP 53-60
DATE PUBLISHED----APR70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

CPIC TAGS--HERBICIDE, ALKYL RADICAL, BENZENE DERIVATIVE, UREA DERIVATIVE,
PHOTOCHEMISTRY, PLANT PHYSIOLOGY, LUMINESCENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

ROXY FICHE NO----FD7C/605014/C09 STEP NO--UR/C394/70/008/004/0058/0060

IRC ACCESSION NO--AP0140479

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0140479

ABSTRACT/EXTRACT--(U) GP-3- ABSTRACT. CHLOROPHYL MOLECULES EXCITED BY LIGHT QUANTA CAN TRANSFORM THE CAPTURED ENERGY EITHER CHEMICALLY, OR BY MEANS OF PHOTOREMISSION. PRESENTLY HERBICIDES OF THE PHENYLOALKYLUREA GROUP ARE USED WIDELY TO CONTROL WEEDS AND THEY SPECIFICALLY EFFECT FLUORESCENCE AND PHOTOPHOSPHORESCENCE. STUDYING THE MECHANISM OF THEIR ACTION, THE AUTHORS UTILIZED A PHOSPHORESCENCEGRAPH, DESCRIBED EARLIER. IT WAS DETERMINED THAT UREA DERIVATIVES AFFECT BOTH THE CHARACTERISTICS AND INTENSITY OF PHOTOREMISSION OF TREATED PLANT LEAVES, REGARDLESS WHETHER THE AGENT WAS SPRAYED OVER THE LEAVES OR INTRODUCED INTO THE ROOT SYSTEM. THIS CHANGE IN THE INTENSITY OF THE PHOTOREMISSION INDICATED THE TIME WHEN A TOXIC AGENT ENTERED THE PLANT PORTION ABOVE THE GROUND AND BY THE SAME TOKEN GAVE DATA ON THE MIGRATION OF THE AGENTS IN SOIL. FACILITY: ALL UNION SCIENTIFIC RESEARCH INSTITUTE OF PHYTOPATHOLOGY, MOSCOW, MINISTRY OF AGRICULTURE USSR.

FACILITY: INSTITUTE OF BIOCHEMISTRY AND PHYSIOLOGY OF MICROORGANISMS, PUSHKINO, ACADEMY OF SCIENCES USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--CHANGE IN THE TYPE OF PHOTOINDUCED PLANT LUMINESCENCES AS A RESULT
OF HEMICIDAL ACTION. SECOND COMMUNICATION. CHARACTERISTICS OF THE
AUTHOR--(05)--ZUCHALKINA, A.I., ROMAN, L.L., GOLOVANI, A.A., ZUCHALKIN, A.I.,
ALEKSEYEV, S.I.
COUNTRY OF INFO--USSR

SOURCE--MOSCOW, KHIMIYA V SEL'SKOM KHOZYAYSTVE, VOL 3, NR 4 (78), APR 70,
PP 53-60
DATE PUBLISHED----APR70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

CPIC TAGS--HERBICIDE, ALKYL RADICAL, BENZENE DERIVATIVE, UREA DERIVATIVE,
PHOTOCHEMISTRY, PLANT PHYSIOLOGY, LUMINESCENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/695014/009 STEP NO--UR/C394/70/008/004/0058/0060

CIRC ACCESSION NO--AP0146479

UNCLASSIFIED

USSR

MOISEYEV, A. A., et al, Tr. Leningr. korablestroit. in-ta, 1970, No. 70, pp 79-88

plates both turbine and compressor regimes are possible. Studies made on the vibrations of cylinders and plates under conditions of a turbine stage showed that the modernization of the stand makes it possible to carry out aerodynamic experiments simultaneously with tensometric studies of the dynamic strength of elastic rods (cylinders of plates and working blades). These experiments make it possible to determine qualitatively the structure of perturbing forces (pulses) at high-frequency resonances and to determine the economy of a turbine stage with various structural features for decreasing the dynamic bending stresses under blade vibrations. 7 ill., 20 ref. L. P. A.

2/2

Measuring, Testing

USSR

UDC 62-135-154-253.5:534.1:539.4.001.6

MOTSFEYEV, A. A., MIYUSHKIN, YU. I., ALEKSEYEV, S. A., FILATOV, V. I.

"Modernization of an Air Stand to Study the Vibration Strength of the Working Blades of an Axial Turbine"

Tr. Leningr. korablestroito. in-ta (Works of Leningrad Shipbuilding Institute), 1970, No. 70, pp 79-88 (from RZh-Turbostroyeniye, No 8, Aug 71, Abstract No 8.49.35)

Translation: It is reported that a modernization was carried out on the VS-1 stand for studying dynamic stresses of bending in working blades of axial turbines under resonance oscillations at the Laboratory of Ship Turbines of Leningrad Order of Lenin Shipbuilding Institute. The modernization of the stand consisted of replacing the induction brake with an air brake and in equipping the stand for simultaneous study of vibration stresses in the working blades and the characteristics of the experimental turbine. Adjustment tests completed on the stand showed that with a working grid of circular cylinders the stand can operate in a turbine regime and with a working grid of

1/2

ALEKSEYEV, A. S., et al, Tr. Leningr. korablestroit. in-ta, 1970, No. 70, pp 3-9

output edges of the guide vanes. To lower the impulse of the perturbing force acting on the working blade, any inclination of the output edges of the guide vanes has a positive effect at all harmonics of the perturbing force. Simultaneously, a deflection of the guide vanes with a concavity toward the axis of the turbine leads in addition to a decrease in the bending stresses from the static action of gas forces. The amplitude of high harmonics is sharply reduced at small angles of inclination and with an increase in the ratio of the magnitude of the angle of the output flow from the nozzle at the root of the working blade to the magnitude of the step angle of the guide vane, the amplitude changes sinusoidally with a maximum amplitude several times less than the amplitude of the perturbing forces with a radial positioning of the output edges of the guide vanes. 5 ill., 7 ref. L. P. D.

2/2

USSR

UDC 62-135-226.3:534.1

ALEKSEYEV, S. A., MOISEYEV, A. A., MITYUSHKIN, YU. I.

"Effect of the Nonradial Position of Guide Vanes on the Amplitude of Perturbing Forces in Axial Turbines"

Tr. Leningr. korablestroit. in-ta (Works of Leningrad Shipbuilding Institute), 1970, No. 70, pp 3-9 (from RZh-Turbostroyeniye, No 8, Aug 71, Abstract No 8.49.31)

Translation: Analysis of resonance high-frequency vibrations of turbine blades shows that the magnitude of dynamic bending stresses in the root section of the working blade at resonance vibrations can be reduced by lowering the magnitude of the pulse force and by reducing the bending stresses from the static action of gas forces. One of the ways of reducing static stresses of bending is to use stages with the absence of a radial gradient of static pressure, and another is to use a nonradial positioning of the guide vanes with respect to the output edges. The effect of the inclination of the guide vanes on the amplitude of the perturbing forces was investigated. The amplitude of perturbing forces acting on the working blade is considerably reduced under nonradial positioning of the

1/2

USSR

UDC: 621.515-253.5:539.4.001.5

ALEKSEYEV, S. A., MITYUSHKIN, YU. I., and FILATOV, V. I.

"The Effect of Axial Clearance and Non-Radial Positioning of the Blades of a Guide-Vane Assembly on the Vibration Strength of the Working Blades of a Compressor"

Tr. Leningr. korablistroit. in-ta (Works of the Leningrad Ship-Building Institute), 1972, vyp.82, pp 15-19 (from RZh-Turbostroyeniye, No 5, 1973, Abstract No 5.49.131)

Translation: The authors present a study made on a model compressor stage involving the effect of the axial clearance between the working wheel and the guide-vane assembly on the level of dynamic bending stresses of the working blades under conditions of first tone resonance oscillations which are evoked by the reverse action of the guide-vane assembly, both in the case of a radial setting of the guide blades with respect to the intake edge and with respect to their skidding with concave side to the compressor axis. Original article: 3 illus., 7 bibl. entries.

1/1

- 127 -

ALEKSEYEV, P. V.

50: JPRS 53292a
02 JUN 91

UDC: 001.92 Lenin

THE VIEWS OF V.I. LENIN ON THE USE OF THE SCIENTIFIC HERITAGE

Article by S.Ya. Glikin, P.V. Alekseyev (Moscow); Vestnik Akademii Meditsinskikh Nauk SSSR, No. 4, April 1971, pp. 6-11

For the first few years following the Great October Socialist Revolution among the proletarian masses and even among communists there were people who believed that the recent revolution had to constitute a total rejection of the entire culture that the ruling classes had used previously. These people expressed for the greater part the mood of backward elements in the population who had not yet discarded their hostility toward science which developed from the antagonism of mental and physical work in an exploiter society. But some communists who went to extremes with respect to bourgeois culture held such positions in the struggle to destroy as quickly and totally as possible the past and to revolutionize society more.

The people's commissar for education, A.V. Lunacharsky, observed that in his practice he often encountered persons who falsely interpreted the Party objectives with respect to cultural institutions. He wrote: "People who were full of revolutionary ardor at first, and sometimes equally respectable passion) shouted such a cry: 'No cultural October revolution! they imagined that some bright hour of some bright month in an equally bright year there will occur the capture of the Academy of Sciences or Kolshov Theater comparable to the capture of the Winter Palace,' and that new people, preferably of proletarian origin or at any rate those that look kindly upon the proletarian would be installed in these institutions." [1]

And one of the naturalist communists expounded a plan for reorganization of the Academy, with the mandatory prerequisite that the existing building be torn down for the purpose of erecting a model academic city (A.V. Lunacharsky; I.S. Semenov; Ye.N. Gerasimov). In an editorial in the Kras'nyy journal, Student Revolyutsii (Student of Revolution) (1922), the words were quoted of the Ukrainian People's Commissar of Education which he had spoken at a conference on education: "Total destruction of higher educational institutions must be effected, and new ones must be built."

There were also "theoreticians," who, alive, in the spirit of vulgar sociology (Shul'yatkovskiy), to interpret not only philomorphical knowledge

2/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AT0119906
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KI CRYSTALS GROWN BY THE
KIROPOULOS METHOD WERE IRRADIATED WITH PROTONS (E EQUALS 3.5 MEV, 1.12
TIMES 10 PRIME19 EV-CM PRIME3 SEC) AT 90-300DEGREESK. THE LIGHT
ABSORPTION IN THE MAX. OF THE F BAND WAS MEASURED. THE TEMP. AT WHICH
F CENTER FORMATION WAS MAX. WAS 130 PRIME POSITIVE-30DEGREESK, THE SAME
AS PREVIOUSLY REPORTED FOR X RAY AND UV INDUCED CENTERS.
FACILITY: TOMSK. POLITEKH. INST. IM. KIROVA, TOMSK, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--KINETICS OF F CENTER ACCUMULATION IN POTASSIUM IODIDE UNDER THE
ACTION OF PROTONS AS INFLUENCED BY TEMPERATURE -U-
AUTHOR--ALEKSEYEV, P.D. A
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13(2), 144-6
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--F CENTER, PROTON, POTASSIUM IODIDE, TEMPERATURE, LIGHT
ABSORPTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1039 STEP NO--UR/0139/70/014/002/0144/0146
CIRC ACCESSION NO--AT0119906
UNCLASSIFIED

USSR

UDC: 621.396.61:621.396.2

ALEKSEYEV, O. V.

"Tube Parameters for Power Amplifiers of Distributed Gain"

Elektron. tekhnika. Nauchno-tekhn. sb. Generatorn. modulvatorn. i rentgen. pribory (Electronic Engineering, Scientific-Technical Collection, Generator, Modulator, and X-ray Devices) 1969, No. 3, pp 49-57 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3D398)

Translation: The effect of tube parameters on the energy indices of power amplifiers with distributed gain is considered. Ideas simplifying the problem of designing special oscillator tubes for such power amplifiers with specified high energy indices are presented. Six illustrations, bibliography of five. Resume

1/1

USSR

ALEKSEYEV, O. V., et al, Radiotekhnika, Vol. 26, No 5, May 71, pp 73-78

great promise for use in wide-band amplifiers for a high power level, making it possible to solve a number of technical problems which cannot be solved with conventional amplifiers, such as filtering higher harmonics without switching octave filters. Amplifiers with separate band amplification can be used for wide-band amplification in the UHF range in a band of several hundred megahertz, and may be especially useful for simultaneous amplification of several signals with strongly differing frequencies.

2/2

- 10 -

USSR

UDC 621.375.121

ALEKSEYEV, O. V., GROSHEV, G. A., Active Members of the Scientific and Technical Society of Radio Engineering, Electronics and Communications

"Wide-Band Power Amplifiers With Separate Amplification in Adjacent Wave Bands"

Moscow, Radiotekhnika, Vol. 26, No 5, May 71, pp 73-78

Abstract: The authors discuss power relationships and design modifications of power amplifiers based on the method of separate band amplification. The principle on which the separate amplification circuit is based involves using a number of amplification channels (separate amplification elements, single-stage or multistage amplifiers) with continuously overlapping frequency responses in a predetermined band so that only one channel amplifies on each frequency (ignoring the region of overlap). Among the advantages of the proposed circuit design are the possibility of filtering higher harmonics without commutation of filters, the possibility for separate correction of the resultant frequency response for different sections of the amplification range of the individual channels, and simplified direct tuning of the amplification part of the device since the bands of the individual channels are narrow compared with the width of the entire range. Studies indicate that the proposed design has

2/2 007 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0123617
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SURFACE COND. DOES NOT VARY
MARKEDLY WITH THE CONCN. OF THE ION. IT DECREASES IN ORDER FOR
MONTMORILLONITE, PALLYGORSKITE, TO VERMICULITE AND FOR NH SUB4 PRIME
POSITIVE, CA, MN, CO, TO CU. THE COEFF. OF EFFECTIVENESS, ALPHA EQUALS
2 PLUS KAPPA SUBSIGMA KAPPA SUBUPSILON, KAPPA SUBSIGMA EQUALS SURFACE
COND. KAPPA SUB NEGATIVE KAPPA SUBUPSILON, KAPPA EQUALS SP. COND. OF THE
FREE SOLN., DECREASES TOWARD 1 AS THE CONCN. INCREASES SINCE KAPPA
SUBUPSILON INCREASES WHILE KAPPA SUBSIGMA REMAINS CONST.
FACILITY: INST. KOLLOID. KHIM. KHIM. VODY, KIEV, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R002065900017-6

1/2 007 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--SURFACE CONDUCTIVITY OF CLAY MINERALS -U-

AUTHOR--(03)-OVCHARENKO, F.D., POLYAKOV, V.YE., ALEKSEYEV, O.L.

COUNTRY OF INFO--USSR

SOURCE--UKR. KHIM. ZH. 1970, 36(2), 170-2

DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--CLAY, ION CONCENTRATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1828

STEP NO--UR/0013/70/036/002/0170/0172

CIRC ACCESSION NO--AP0123617

UNCLASSIFIED

2/2 Q16

UNCLASSIFIED

PROCESSING DATE--04DEC70

IRC-ACCESSION NO--AP0137923

BSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADSORPTION DESORPTION ISOTHERMS FOR H SUB2 O ON NATURAL HALLOYSITE AND KAOLINITE AND ON THE NH SUB4, NA, CA, AL, AND TH FORMS ARE GIVEN. THERE ARE NO GREAT DIFFERENCES IN THE HYSTERESIS LOOPS FOR THE VARIOUS FORMS OF HALLOYSITE, BUT THE KAOLINITES AT LOW RELATIVE PRESSURES HAD INCREASINGLY LARGE HYSTERESIS LOOPS IN GOING FROM THE NATURAL AND CA FORMS TO THE NA, AL, AND TH FORMS. THIS IS DISCUSSED IN TERMS OF HYDRATION OF METAL CATIONS AND IN TERMS OF THE ENERGY INVOLVED IN DISPLACING THE CATIONS FROM THE SILICATE SURFACE WITH RESULTANT HYDRATION OF BOTH METAL AND SURFACE. THE HYSTERESIS LOOPS OF MECH ADSORBED ON KAOLINITE AND HALLOYSITE ARE MUCH NARROWER THAN THOSE OF H SUB2 O. AT A RELATIVE PRESSURES LARGER THAN 0.9, THERE IS A RAPID INCREASE IN ADSORPTION. THIS IS ATTRIBUTED TO THE PRESENCE OF PORES OF RADIUS LARGER THAN 200 ANGSTROM. A TABLE IS GIVEN OF HEATS OF WETTING AND OF VOLS. OF THE MONOLAYER FOR THESE MATERIALS. FACILITY: INST. KOLLOID, KHIM. KHIM. VODY, KIEV, USSR.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ABSORPTION OF WATER ON CATION SUBSTITUTED HALLOYSITE AND KAOLINITE
-U-
AUTHOR--(1)-OVCHARENKO, F.D., TARASEVICH, YU.I., RUDENKO, V.H.,
BONDARCHUK, S.V., ALEKSEYEV, O.L.
COUNTRY OF INFO--USSR
SOURCE--UKR. KHIM. ZH. 1970, 36(3), 253-9
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--ADSORPTION, ISOTHERM, KAOLINITE, WATER, METHANOL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
ROXY REEL/FRA--3008/0895 STEP NO--UR/0073/70/036/003/0253/0259
IRC ACCESSION NO--AP0137923
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125570

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MOL. STRUCTURE OF TRIMETHYLCYCLOPENTADIENYLSILANE, C SUB5 H SUB5 SIME SUB3, HAS BEEN STUDIED BY ELECTRON DIFFRACTION IN THE VAPOR PHASE. THE SI ATOM IS BONDED BY THE LOCALIZED SIGMA BOND WITH ONE OF THE CYCLOPENTADIENYL CARBON ATOMS. THE SI-C BOND DISTANCES ARE 1.90 ANGSTROM. THE CYCLOPENTADIENYL RING HAS AN "ENVELOPE" CONFORMATION, THE DIHEDRAL ANGLE BETWEEN PLANAR 4 AND 3-MEMBERED FRAGMENTS OF THE RING BEING 22DEGREES. THE SI-C BOND MAKES AN ANGLE OF 56DEGREES WITH THE PLANE OF THE BENT OUT "ENVELOPE FLAP". ASSUMING THE QUALITY OF ALL C-H BOND LENGTHS AND ALSO OF THREE C-C BOND LENGTHS WITHIN THE PLANAR 4-MEMBERED FRAGMENT OF THE CYCLOPENTADIENYL RING, THE FOLLOWING VALUES ARE OBTAINED: GAMMA(C-H) EQUALS 1.11, GAMMA(C-C) EQUALS 1.53, GAMMA(C:C) EQUALS 1.40 ANGSTROM.

FACILITY: INST. ORG.-ELEM. COMPD., MOSCOW, USSR.

UNCLASSIFIED

1/2 008

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--ELECTRON DIFFRACTION STUDY OF THE MOLECULAR STRUCTURE OF
TRIMETHYLCYCLOPENTADIENYLSILANE -U-

AUTHOR--(05)-VENYAMINOV, N.N., USTYNYUK, YU.A., ALEKSEEV, N.V., KONOVA,
I.A., STRUCHKOV, YU.T.

COUNTRY OF INFO--USSR

SOURCE--ORGANOMETAL. CHEM. 1970, 22(3), 551-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTRON DIFFRACTION ANALYSIS, MOLECULAR STRUCTURE, CYCLIC
GROUP, ORGANIC SILANE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1981

STEP NO--NE/0000/70/022/003/0551/0555

CIRC ACCESSION NC--AP0125570

UNCLASSIFIED